

**Title: SAFETY AND TECHNOLOGICAL CRITERIA FOR SELECTION OF LACTIC ACID BACTERIA ISOLATED FROM GOAT MILK**

**Authors** Almeida Júnior, W. L. G.<sup>1</sup>, Silva, G. S.<sup>1</sup>, Pinheiro, A. P. M. A.<sup>1</sup>, Ferrari, I. S.<sup>1</sup>, Souza, J. V.<sup>1</sup>, Silva, C. D. A.<sup>1</sup>, Dias, F. S.<sup>1</sup>

**Institution** <sup>1</sup>UNIVASF - Federal University of San Francisco Valley, Rod. BR 407, Km 12 - Lote 543 - Projeto de Irrigação Senador Nilo Coelho, s/nº - C1 - CEP 56.300-990. Petrolina, Pernambuco, Brazil.

**Abstract:**

Interest is now growing in the development of novel foods containing probiotic microorganisms. Lactic Acid Bacteria (LAB) are frequently studied for probiotic use in different food matrices. The majority of the commercialized and most studied probiotics have been isolated from dairy products and from the human gastrointestinal tract (GIT). However, these microorganisms must be confirmed as safe while retaining characteristics that make them technologically, functionally and physiologically capable of benefitting the food and health of the host. The objective of the study was to conduct a screening of autochthonous LAB from goat milk based on safety and technological criteria for potential probiotic use in dairy products. The isolates of LAB were subjected to simulation of tolerance to the gastrointestinal tract, haemolytic test, antimicrobial susceptibility, antibacterial activity, Exopolysaccharide (EPS) production, gas production, evaluation of proteolytic activity, diacetyl production and tolerance to NaCl. The genus and species of the selected LAB isolates were confirmed using molecular identification. Statistical analysis was performed. UNIVASF CAP 14 and 20 were differentiated by survival up to pH 2 and pancreatin, resistance to NaCl and antibacterial activity against *Klebsiella pneumoniae*. UNIVASF CAP 4 and 29 were characterised by resistance to intestinal juice and antibacterial activity against *Salmonella Typhi* and *Listeria monocytogenes*. UNIVASF CAP 27, 38, 43 and 139 exhibited diacetyl production, antibacterial activity against *Bacillus cereus*, *Staphylococcus aureus* and *Enterococcus faecalis*. UNIVASF CAP 35 and 138 were characterised by proteolytic activity, EPS production, antibacterial activity to *E. coli* and *Shigella flexneri*. In conclusion, LAB isolated from goat milk have high potential for probiotic application, with elevated production of EPS, survival at low pH and confirmed *in vitro* inhibition of pathogens.

**Key words:** *Lactobacillus*, probiotic, inhibition, pathogens

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